

II. Double Patenting Rejections

Claims 1-17 and 21-25 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-46 of copending Application No. 09/349,436. — FR

Claims 1-55 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23, 31, 54-82, 84-87, 90-107 of copending Application No. 09/350,579. *Not of appeal*

Claims 1-21 and 25-55 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 and 17-42 of copending Application No. 09/287,176. *Not of appeal*

Applicant maintains the traversal of all of these rejections, and respectfully requests that the rejections be held in abeyance until allowable subject matter is indicated in this application.

III. Rejection under 35 U.S.C. § 102(e)

7-9 should be left out of rejection

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Claims 1-17, 25-29, 23-24¹, and 38-47 have been rejected under 35 U.S.C. § 102(e) as being anticipated by *Rondeau et al.* (U.S. Pat. No. 6,001,135) ("*Rondeau*") for reasons of record and additional reasons on pages 2-3 of the present Office Action. The Office again points to Example 2 of *Rondeau*, alleging that it teaches a composition comprising an oxidation base, a cationic direct dye of formula (I14), sawdust which the

¹ Based on the record, it appears that the Office probably intended to reject claims 32-34 here and not 23-24. See, e.g., Paper No. 5, Office Action dated September 14, 2000, at page 5. However, clarification is respectfully requested.

Office contends comprises polymers containing a sugar unit as claimed (cellulose), and hydrogen peroxide. See Office Action of September 13, 2000, page 5, and present Office Action, page 3. Applicant respectfully traverses this rejection for the reasons of record, and as supplemented below.

A rejection under § 102 is only proper when the reference teaches every aspect of the claimed invention either explicitly or impliedly. See M.P.E.P. § 706.02(a). Applicant maintains her position that this is not the case here.

The Office maintains its allegation that sawdust comprises polymers containing a sugar unit as claimed, *i.e.*, cellulose. As argued of record, the sawdust in *Rondeau* is not what is typically meant in the art by "thickening polymer." Rather, one of ordinary skill in the art would recognize that the sawdust of *Rondeau* has a composition and physical organization different from that of a "thickening polymer".

In particular, wood sawdust is composed of a heterogeneous mixture of both polymeric and non-polymeric components, specifically a mixture composed of 67-80% holocellulose and 17-30% lignin (a phenylpropane polymer), together with low percentages of resins, sugars, a variable amount of water, and potassium compounds.² Furthermore, the physical organization of cellulose-lignin crosslinking in wood sawdust clearly differentiates it from a "thickening polymer". See *Pulp and Paper: Chemistry and Chemical Technology*, Third Edition, Volume 1, ed. James P. Casey, 1980, John Wiley & Sons, Inc., N.Y.

² See Richard J. Lewis, Sr., *Hawley's Condensed Chemical Dictionary*, John Wiley & Sons, 1997.

The lignin and carbohydrate components exist in intimate association in wood. This closeness is an inherent feature that results from biosynthesis... In view of this close association between the aromatic and saccharidic wood components, it is not surprising that bonds exist between the lignin and carbohydrate components. In line with lignin's function as a mechanical reinforcement agent, the observation that **lignin covalently crosslinks polysaccharide chains** may be interpreted in terms of an ingenious structural design in which cross-links result in a ladder-type structure with unique physical properties.

Id., at page 59. One of ordinary skill in the art would understand that further chemical modification is required to obtain polysaccharide chains that are not covalently crosslinked with lignin. In addition,

Inasmuch as a plant deposits lignin with the object of reinforcing tensile-strong fibers with a rigidity-building binder, lignin removal, or delignification, can be regarded as fiber-delamination. Nature has designed a superb laminant in lignin, which penetrates fibers in such a fashion that delamination is very difficult. Delamination is made difficult by the gigantic molecular size of lignin and by the existence of covalent bonds between the binder and the carbohydrate components of the fiber. - - - **Complete separation of the polysaccharide from the polyphenolic component without simultaneous alteration of the chemical structure of lignin and/or degradation of carbohydrates is not possible.**

Id., at page 62. Accordingly, one of ordinary skill in the art would also understand that although wood sawdust comprises polysaccharide chains, these polysaccharide chains are necessarily covalently crosslinked with lignin. Applicant submits that because of the composition and physical organization of wood sawdust, including the covalent crosslinking between cellulose and lignin in wood sawdust, one of ordinary skill in the art would not recognize that wood sawdust is what is meant in the art by a "thickening polymer."

Furthermore, the Applicant's own specification provides numerous examples of cellulose-based thickening polymers that do not read upon the crosslinked heterogenous framework of cellulose and lignin that comprise sawdust. Clearly, one of ordinary skill in the art knows that the macroscopically organized and structurally crosslinked polymers in the remains of rigid plant cell walls that comprise "sawdust" are clearly distinguished from the polymers used in the art as "thickening polymers".

In order to properly anticipate the claimed invention, the reference must identically describe or disclose the claimed subject matter. *In re Arkley* 4555 F.2d 586, 587 (CCPA 1972.) In the present case, *Rondeau* discloses (e.g., in Example 2) a composition comprising at least one cationic direct dye according to the presently claimed invention. However, as discussed above, in disclosing "sawdust", *Rondeau* fails to exemplify at least one thickening polymer as defined in the present application. Accordingly, because *Rondeau* does not "identically describe or disclose" Applicant's invention, Applicant respectfully requests that the rejection under § 102(e) be withdrawn for this reason alone.

Finally, Applicant points out that the Office does not provide any support for rejecting claims 7-9. These dependent claims further define the at least one thickening polymer in a manner that is clearly distinguishable from the covalently crosslinked cellulose-lignin polymers of wood sawdust used in *Rondeau*. As discussed above, one of ordinary skill in the art would know that the cellulose polymers of wood sawdust are necessarily covalently crosslinked with lignin. The categories of "thickening polymer"

specifically recited in claims 7-9 are clearly distinguishable from the wood sawdust used in *Rondeau*. Thus, the rejection should be removed from at least these claims.

For the reasons of record, as supplemented above, Applicant submits that *Rondeau* does not "identically describe or disclose" Applicant's invention, therefore, Applicant respectfully requests that the rejection of claims under § 102(e) be withdrawn.

V. Rejection under 35 U.S.C. § 103(a)

Rondeau

Claims 1-55 have again been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Rondeau* for the reasons set forth on pages 4-5 of the present Office Action, and for the reasons set forth in the Office Action dated September 6, 2001. Applicant traverses this rejection for reasons of record, and as supplemented below.

Applicant maintains her position that the Office has failed to make a *prima facie* case of obviousness because no motivation to modify the reference has been shown and also because there is no evidence of record that one of ordinary skill would have reasonably expected success in making such a modification.

In response, the Office has argued that "[t]here is no motivation needed to substitute equivalents as long as the prior art recognizes the equivalence. Such equivalence is taught at column 23 lines 24-31" of *Rondeau*. (Office Action, page 5.) In addition, the Office asserts that "organic pulverulent excipients" and "thickening polymers" are equivalent because "they are defined as being composed of the same polymer", and "*Rondeau* clearly lists polysaccharides such as celluloses and modified or

unmodified starches as well as...guar gums as equivalent additives in the inventive compositions.” (Office Action, page 5.)

Applicant disagrees. *Rondeau* does not disclose “thickening polymers”. Instead, *Rondeau* discloses pulverulent excipients. An excipient is defined in *Hawley’s Condensed Chemical Dictionary* at page 484 as a “...material used...as a binder.” A “binder” is defined as “any cementitious material that is soft at high temperatures and hard at room temperature, used to hold dry powders or aggregates together.” (*Hawley’s* at page 138.) Clearly the purpose of such an ingredient is not as a “thickening polymer.” Accordingly, one of ordinary skill in the art would not replace *Rondeau’s* “pulverulent excipients” with Applicant’s “thickening polymers” because they are not equivalent.

In support of its rejection, the Office states that “a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments.” (Office Action, page 4, citing *Merck & Co. v. Biocraft Laboratories*, 10 USPQ2d 1843 (Fed. Cir. 1989.)) In particular, the Office relies upon the disclosure of *Rondeau* at column 23, lines 24-31. However, when the *Rondeau* reference is considered as a whole, *Rondeau* clearly states that composition (A’) is “optionally...dispersed in an organic and/or inorganic pulverulent excipient. (*Rondeau*, col. 23, lines 17-23, emphasis added.) Accordingly, *Rondeau* discloses that “inorganic excipients” are equivalent replacements for “organic excipients” in *Rondeau’s* composition. Therefore, if “organic excipients” are equivalent to Applicant’s “thickening polymers”, as suggested by the Office, then it would also have to be true that “inorganic excipients” are equivalent to “thickening polymers”, because *Rondeau* teaches the

equivalence of "inorganic excipients" and "organic excipients". However, this reasoning is clearly invalid, *Rondeau's* examples of inorganic excipients include various metal oxides. (Id., col. 23, lines 32-35.) *Rondeau's* "inorganic excipients" clearly do not include a polymer comprising at least one sugar unit, as required in Applicant's "thickening polymer". And the Office has not offered any evidence that one of ordinary skill in the art would consider *Rondeau's* "metal oxides" to be equivalent to Applicant's "thickening polymers". Accordingly, one of ordinary skill in the art reading *Rondeau's* full disclosure would conclude that *Rondeau* suggests using excipients that are clearly not equivalent to Applicant's "thickening polymers". The Office appears to be arbitrarily, and impermissibly, picking and choosing certain excipients taught by *Rondeau* as a basis for asserting that *Rondeau's* excipients are equivalent to Applicant's "thickening polymers". Motivation to modify *Rondeau* by replacing *Rondeau's* optional organic or inorganic pulverulent excipient with Applicant's "thickening polymers" is found only in Applicant's specification.

Further, the Office has not responded to the Applicant's argument, filed February 13, 2001, and again on September 6, 2001, that even if one did make the substitution suggested by the Office, there would have been no reasonable expectation of success. The present application teaches ready-to-use compositions comprising (1) at least one cationic direct dye chosen from compounds of formulae (I), (II), (III) and (III') and (2) at least one thickening polymer comprising at least one sugar unit. In contrast, *Rondeau* teaches ready-to-use compositions comprising (1) at least one oxidation base, (2) at least one cationic direct dye, and (3) at least one oxidizing agent. Therefore, *Rondeau*

requires both at least one oxidation base and at least one oxidizing agent, neither of which are required by broad claim 1. Accordingly, one of ordinary skill in the art would not necessarily have expected success from substitution of a pulverulent excipient with a thickening agent of the present application in *Rondeau* without including both at least one oxidation base and at least one oxidizing agent. To establish a *prima facie* case of obviousness, an Office must demonstrate that there was a reasonable expectation of success. See M.P.E.P. § 2143. The Office, in the present case, has not met this burden.

Also, the Office has not responded to the Applicant's argument, also filed February 13, 2001, and again on September 6, 2001, that the motivation to modify *Rondeau* by adding at least one thickening polymer of the present application and removing two required ingredients (oxidation base and oxidizing agent) simply does not exist in the cited reference. Yet, the M.P.E.P. requires that the motivation to modify the disclosure of *Rondeau* to obtain the claimed composition must come from the reference itself. See M.P.E.P. § 2143 (7th ed. 1st rev. 2000). This has not occurred here.

Therefore, because the *Rondeau* patent teaches the use of different chemical compounds to form a different product via a different method for a different purpose, one of ordinary skill in the art would not have been motivated to modify *Rondeau* to obtain the present inventive compositions, nor would there have been a reasonable expectation of success in doing so. Accordingly, Applicant respectfully requests that the rejection be withdrawn.

VI. Conclusion


In view of the foregoing remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account, Deposit Account No. 06-0916.

Respectfully submitted,

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Enclosure:

Extracts from *Pulp and Paper: Chemistry and Chemical Technology*

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